

Available online on 15.05.2024 at <http://jddtonline.info>

Journal of Drug Delivery and Therapeutics

Open Access to Pharmaceutical and Medical Research

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Review Article

Management of *Dubayla al-Kabid* (Liver abscess) in Unani medicine: A review

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Article Info:



Article History:

Received 21 Feb 2024
Reviewed 03 April 2024
Accepted 25 April 2024
Published 15 May 2024

Cite this article as:

Rahman Z, Alam S, Ahmad I, Shaikh N, Adil M, Yadav P, Devi MK N, Management of *Dubayla al-Kabid* (Liver abscess) in Unani medicine: A review, Journal of Drug Delivery and Therapeutics. 2024; 14(5):191-193

DOI: <http://dx.doi.org/10.22270/jddt.v14i5.6579>

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Abstract

Dubayla al-Kabid (**Liver abscess**) is a condition in which collection of pus occurs in the liver commonly involving the right lobe. Traditional Unani medicine offers a detailed description of liver disorders alongwith their management. Causative factors of *Dubayla al-Kabid* include- infection, chronic dysentery, liver injury, cholelithiasis, irregular diets etc. The symptoms are fever with chills, abdominal pain, loss of appetite and difficulty in breathing. The line of treatment under *Usool-e-Ilaj* of the disease is based on evacuation of pus, use of medicines with *Dāfi-i-Ḥummā* (Antipyretic), *Daf-i-Ta'affun* (Antiseptic), *Muḥāfiz-i-Jigar* (Hepatoprotective) and *Muqawwī-i-Jigar* (Liver tonic) properties. In contemporary medicine liver abscess is an encapsulated collection of suppurated material within the liver resulting from either fungal, bacterial, or parasitic infection. Although *Klebsiella pneumoniae* accounts for 50–70% of cases in the Asian subcontinent, *Entamoeba histolytica* is also frequently seen in routine clinical practice causing liver abscesses. *Escherichia coli* is the most common bacterium causing liver abscesses. Thus, infection that spreads throughout the biliary system is one of the most frequent causes of liver abscess requiring antibiotics. The drainage of pus is the treatment of choice in cases of large abscess while small liver abscess of 2-3 cm is conventionally treated with antibiotics. Antimicrobial resistance and persistence are associated with an elevated risk of treatment failure and relapsing infections. Hence there is a need to explore the ages old treatment strategies for the management of small liver abscess laid down in traditional Unani medicine. This paper will further pave the way of developing novel therapies for the effective management of liver abscess.

Keywords: *Dubayla al-Kabid*, Unani management, *Usool-e-Ilaj*

Introduction

Liver abscess is an encapsulated collection of suppurated material within the liver that may be the result of a fungal, bacterial, or parasite infection. Pyogenic liver abscesses, as they are called, are the most common type, and are caused by bacterial infections. These infections can be caused by gram-positive cocci, gram-negative bacilli, or anaerobic organisms.¹

Leakage from the abdomen's colon moves through the portal vein to the liver, which is the typical pattern of abscess formation. An abscess is frequently directly caused by direct contact with an inflamed biliary tract.

There are several classifications for liver abscesses: One is based on the liver's location. Less frequently, the left liver lobe or caudate lobe, which is the more substantial portion of the liver with greater blood flow, is the site of single liver abscesses, accounting for 50% of cases. Examining the source is an additional technique: Most liver abscesses can be categorised into bacterial (including amebic) and parasitic (including hydatiform cyst) origins if the underlying cause is infectious.²

Epidemiology

There are roughly 2.3 cases per 100,000 people in the annual incidence rate. Compared to females, males are more commonly impacted.[8] The type of abscess that develops depends on an individual's age. Individuals between the ages of 40 and 60 are more susceptible to liver abscesses that are not caused by trauma.³

Etiology

The primary cause of liver abscesses was once thought to be appendicitis, but with improved diagnostic and treatment options, that number has dropped to fewer than 10%. Pyogenic liver abscesses are mostly caused by biliary system diseases, which include biliary stones, strictures, malignancies, and congenital defects.

Cholangitis is the resultant condition in half of bacterial cases. Diverticulitis, cholecystitis, portal vein bacteremia, hepatic artery bacteremia, and penetrating trauma are fewer common causes.²

Some might have cryptogenic roots. Although they are sometimes polymicrobial, the most prevalent species are E.

Coli, Klebsiella, Streptococcus, Staphylococcus, and anaerobic organisms. Finding an additional infection source (endocarditis) that has hematogenously travelled to the liver should be the main priority if staph or strep are the only ones detected. Southeast Asian countries have a high prevalence of Klebsiella pneumoniae infections, which may also have a connection to colorectal cancer in that region.⁴

Pathophysiology

Mesoderm, ectoderm, and endoderm combine to produce the human gastrointestinal system. The tube's lining is made of endoderm. The dorsal mesentery is created by the fusion of the posterior splanchnic arteries. To produce the ventral mesentery, anterior splanchnic veins merge together. The ventral mesentery encloses the septum transversum, where the liver develops. The liver and the front abdominal wall are still attached.

The liver is particularly prone to bloodstream infections and abscesses because it obtains its blood supply from the systemic and portal circulations.⁵

Bowel content leakage and peritonitis are the typical pathogenesis of pyogenic liver abscesses. Via the portal vein, bacteria are transported to and remain in the liver. The biliary system is another possible site of infection. Another possible aetiology is hematogenous spread.⁶

Diagnosis

Before deciding on any diagnostic procedures, it is essential to get a complete history and perform a comprehensive physical examination. This encompasses, but is not restricted to, learning about the patient's past medical history, occupation, travel history, origin, and any recent infections or treatments. The development of liver abscesses is facilitated by a number of risk factors, including diabetes, cirrhosis, male gender, advanced age, impaired immune systems, and use of proton pump inhibitors. Following the collection of a history, a physical examination and systems assessment can yield a wealth of additional information. Patients may report fever, chills, night sweats, malaise, nausea, vomiting, right shoulder discomfort (from phrenic nerve irritation), right upper quadrant pain, cough, dyspnoea, anorexia, or sudden unexplained weight loss upon system analysis. Fever is present in 90% of cases.⁷

USG of the abdomen is performed in all suspected cases of liver abscess for confirmation of the diagnosis and has a sensitivity of 85%. Nowadays, if the sonography is not revealing any abscess or the results are unclear, contrast-enhanced computed tomography (CECT) abdomen is done in cases with strong clinical suspicion.⁸

Unani Perspectives of Liver abscess

The collection of pus in liver is called as *Dubayla al-Kabid*. It occurs only after *warm-e-jigar harr* (hot inflammation of liver) as such the disease of *Salabat-e-jigar* occurs after the *warm-e-jigar barid* (cold inflammation of liver)⁹. If it is large then it is called as *Dubayla* and if it is small then it is called as *Khurāj*. It is more common in the countries having the hot weather. The most affected part of liver is right lobe. It may be single and multiple abscess. Sometimes if multiple abscesses found in the *Bab-al-kabid* (porta hepatis) then the prognosis will be worst.¹⁰

The causes are *Muzmin Pechish* (Chronic dysentery), Irregular diets. *Ḍarba-o-Saqṭa-i-Jigar* (Injury to the Liver), *Ta'afun al-Dam* (Toxaemia). *Kathrat-e-Mai Noshi* (Excessive Alcoholism). *Hisat-al-Mirarah* (Cholelithiasis), *Sū' Mizāj al-Kabid*, *Warm-e-Zaida-Aa'war* (Appendicitis). *Dukhool-e-Ajsaam-e-Ghareeba* (Entry of foreign body in the liver).¹¹

Sign and Symptoms

- Fever with chills and rigors sometimes fever may be high grade up to 103 F.
- Abdominal ach in upper right region.
- Night sweating.
- Indigestion.
- Generalized weakness.
- Excessive thirst.
- Painful breathing.¹⁰

Usool-e-Ilaj (Principles of Management)

- If there is fever then *Tabreed wa Taskeen* should be done.
- *Mundij* advia will be used.
- After *Mundij* the *Mushilaat* will be used.
- Correction of *Sū' Mizāj al-Kabid* (ill temperament of liver)
- Uses of *Daf-i-Ta'affun*, *Muḥāfiẓ-i-Jigar* and *Muqawwi-i-Jigar* Advia.¹²
- *Dimad of Muqawwiyat-e-Jigar at liver site*.
- To restore the health *Muqawwiyat-e-Aam* (General Tonic) will be given.

Management

There are four modalities of Unani management of Liver Abscess.

1) 'Ilāj bi'l Ghidhā' (Dietotherapy)

- Easily digestible and light food will be advised.
- Barley water, Horse gram water and green gram beans will be given.
- Avoid fatty, fried and oily food.

2) 'Ilāj bi'l Tadbīr (Regimenal Therapy)

- *Dāfi-i-Ḥummā* Tadabeer Such as cold sponging with *Roghan-e-Gul* on the head and also sponging with a mixture of *Aab-e-Inabus Sa'alab*, *Aab-e-Barg-e-Isabgaul*, *Aab-e-Baartangt*, each 25 ml, *Roghan-e-Gul* 12 ml, Vinegar 6gm and *Arq-e-Gulab* 40 ml at the right lumbar region.¹⁰
- Before accumulation of pus *Fasd of Basaliq* (Venesection of Basilic vein) will be performed.
- After venesection *Hijama* (Cupping therapy) at the site of back will be done.¹²
- If there is severe pain then the *Irsaal-e-Alaq* (Leech therapy) at the site of liver will be done.¹⁰

3) 'Ilāj bi'l Dawā' (Pharmacotherapy)

- *Dāfi-i-Ḥummā* Advia Such as *Habb-e-Bukhar* and *Habb-e-Mubarak* will be given.¹³
- If pus is not accumulated then *Rad '-i-Mawād* (Repelling morbid matter) advia will be used.
- If pus is accumulated then *Mudij* Therapy will be given.
- For *Mudij* therapy *Mā' al-Sha'ir / Āsh-i-Jav* (Barley Water) with honey will be used with decoction of *Hulba* (Trigonella foenum) and *Injeer* (Ficus carica).

- After *Mudij*, *Mushil* therapy such as *Turanjabeen* (Alhagi pseudalhagi), *Sheer-e-Khisht* (Fraxinus ornus), *Khayar shambar* (Cassia fistula) will be given.
 - If pus is excreting through the urine, then *Mudirrat* (Diuretics) such as *Sheera Tukhm-e-khayarain*, (Cucumis sativus L.) *Sheera tukhm-e-kharpozah* (Cucumis melo) with *Sharbat-e-Unnab*, *Sharbat-e-Khashkhash* and *Sharbat-e-Neelofar* will be given.
 - After evacuation of Pus the vulnerary agent (*Mudammil*) like Honey water with *kundur* (Boswellia serrata), *Damul Akhwain* (Dracaena cinnabari) and *kuharba* (Vateria indica) will be advised.
 - As a liver tonic *Dimad* of the paste of *Sandal* (Santalum album), *Bartang* (Plantago major), *Mastagi* (Pistacia lentiscus Linn), *Reward chini* (Rheum emodi) and *Luk maghsool* (Laccifer lacca) will be applied at liver site.
 - For restoration of power of liver volatile drugs such as *Ood* and *Zafraan* internally as well as locally will be recommended.¹²
- 4) **'Ilāj bi'l Yad' (Surgical Intervention)**
- If abscess is more than 2-3 cm then percutaneous drainage will be done.

Conclusion

Dubayla al-Kabid (Liver abscess) is mostly due to the infection either of fungus, Parasites and Bacteria. In modern medicine only way of management of Liver abscess is surgical intervention and uses of Antibiotics. But now a days the unnecessary uses of antibiotic results in antibiotic resistance leading to ill cure of liver abscess. In the Unani system of medicine Liver abscess occurs due to humoural imbalance, *Sū' Mizāj al-Kabid* (ill temperament of liver) and other causes. So, the mode of treatment in the unani system of medicine is evacuation of morbid matter by *Mudij* and *Mushil* therapy and correction of ill temperament of liver and by using the liver tonic. This review may be useful in determining an alternative course of treatment for an antibiotic-resistant liver abscess and this paper offers a wide range of liver abscess treatment alternatives in accordance of Unani medicine.

Acknowledgement: The authors express their sincere gratitude to Dr. N Zaheer Ahmad, the Director General CCRUM and Dr. Nirmala Devi, Assistant Director, RRIUM Mumbai for providing means and emotional support needed to complete the review.

Conflict of Interest: None.

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